

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Liang, Dah-Ben, et al. Confirmation No. 7809
Application No. : 09/637,764
Filed : August 10, 2000
Title : ROCK BIT WITH HARD-FACING MATERIAL INCORPORATING
SPHERICAL CAST CARBIDE PARTICLES

Grp./Div. : 3672
Examiner : William P. Neuder

Docket No. : 36912/S61

**DECLARATION OF INEZ CAMERON IN SUPPORT OF
PETITION UNDER 37 C.F.R. §1.47(a) TO ACCEPT UNEXECUTED DECLARATION
ON BEHALF OF AN UNCOOPERATIVE JOINT INVENTOR**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Post Office Box 7068
Pasadena, CA 91109-7068
November 5, 2008

Commissioner:

I, Inez Cameron, hereby declare that:

1. I am a Patent Administrator for the assignee of the above-referenced reissue patent application, Smith International, Inc. I have personal knowledge of the facts stated herein, unless otherwise noted;

2. On June 4, 2008, I received a copy of a letter from our Patent Attorney, Constantine "Gus" Marantidis, reporting a Final Office Action that issued on the above-referenced reissue application, as well as copies of a Substitute Declaration for Reissue Patent Application to be signed by the joint inventors;

3. On or about June 10, 2008, I forwarded a copy of a Substitute Declaration for Reissue Patent Application ("Substitute Declaration") to joint inventor, Zhigang Fang, also known as Zak Fang. A true and accurate copy of the Substitute Declaration forwarded to Mr. Fang is attached hereto in Appendix A.

Application No. 09/637,764

4. On June 27, 2008, I sent an email to Mr. Fang inquiring if he had received the Substitute Declaration. A true and accurate copy of this email is attached hereto in Appendix B;

5. On August 7, 2008, I sent a further email providing a reminder to Mr. Fang to sign the Substitute Declaration and return it to me. A true and accurate copy of my email of August 7, 2008 is attached hereto in Appendix C;

6. On October 22, 2008, I sent Mr. Fang an email providing a further reminder. A true and accurate copy of my email of October 22, 2008 is attached hereto in Appendix D;

7. On October 22, 2008, I received a reply from Mr. Fang stating that he would "take care" of the Substitute Declaration early next week. A true and accurate copy of Mr. Fang's email of October 22, 2008 is attached hereto in Appendix E;

8. On October 27, 2008, I received another email from Mr. Fang advising that he can not sign the Substitute Declaration. A true and accurate copy of Mr. Fang's email of October 27, 2008 is attached hereto in Appendix F;

9. On October 27, 2008, Mr. Fang had a telephone conversation with Mr. Marantidis. Mr. Marantidis advised me that Mr. Fang may reconsider signing the Substitute Declaration. Mr. Marantidis forwarded to me a copy of the Amendment After Final action showing the claims as currently pending in the application, as well as a copy of the previous Substitute Declaration executed by Mr. Fang to be forwarded to Mr. Fang for his review. On October 27, 2008, I forwarded both of these documents to Mr. Fang. A true and accurate copy of my email to Mr. Fang, including true and accurate copies of the attachments are attached hereto in Appendix G;

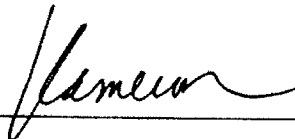
10. On November 6, 2008, I left a follow up voicemail to Mr. Fang, inquiring about the status of the Substitute Declaration; and

11. To this date, I have not received a copy of the signed Substitute Declaration from Mr. Fang.

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Date 11-5-08

By 
Inez Cameron

CM/mml

MML PAS821969.1-11/5/08 11:36 AM

APPENDIX A

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

For	: Reissue of U.S. Patent No. 5,791,422	Confirmation No. 7809
Patentee	: Dah Ben Liang, et al.	
Patent No	: 5,791,422	
Patent Issue Date	: August 11, 1998	
Title	: ROCK BIT WITH HARDFACING MATERIAL INCORPORATING SPHERICAL CAST CARBIDE PARTICLES	
Grp./Div.	: 3672	
Examiner	: William P. Neuder	
Docket No.	: 36912/S61	

SUBSTITUTE DECLARATION FOR REISSUE PATENT APPLICATION

Mail Stop Reissue
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Post Office Box 7068
Pasadena, CA 91109-7068
May 29, 2008

Commissioner:

As a below named inventor, I hereby declare that my residence and post office address is listed below, I am a citizen of the United States of America, and I believe I am an original, first and joint inventor of the subject matter described and claimed in U.S. Patent No. 5,791,422 (the "'422 Patent"), issued on August 11, 1998, for which a reissue patent is sought on the invention entitled ROCK BIT WITH HARDFACING MATERIAL INCORPORATING SPHERICAL CAST CARBIDE PARTICLES, the specification of which is attached hereto. The application for the '422 Patent was filed on March 12, 1997, as Application Serial No. 08/815,745 (the "'745 Application").

I acknowledge the duty to disclose information known to me to be material to the examination of this application in accordance with Title 37, Code of Federal Regulations, Section 1.56(a).

I believe that the '422 Patent is partially inoperative because none of the claims in the '422 Patent are directed to a rock bit comprising a cutting cone having a number of teeth which include a hardfacing comprising spherical cast tungsten carbide particles having particle sizes

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between about 16 mesh to less than 40 mesh without also requiring particle sizes between about 80 and 200 mesh. The novelty of this aspect of my invention was erroneously overlooked, as I did not appreciate the full scope of the invention being claimed at the time the '745 Application was filed and during its prosecution. My failure to recognize the full scope of the invention being claimed was inadvertent as is evidenced by the fact that although this novel feature was described in the specification of the '745 Application, it was not broadly claimed. As a result of this failure, I claimed less than I had a right to claim in the '422 Patent. Every error in the patent which was corrected in the present reissue application, and is not covered by a prior oath/declaration submitted in this application, arose without an deceptive intention on the part of the applicant.

I hereby state that I have reviewed and understand the content of the above-identified application, including the original claims 1-3, 7-27 and any amendment made to such claims, and the added reissue claims 28, 29, 31-33, 35-37 and 39-41 which are directed to a rock bit comprising a cutting cone having a number of teeth comprising a hardfacing comprising steel and spherical tungsten carbide particles.

I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, both under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the reissue application or any patent issuing thereon.

Date _____

By _____

Zhigang Fang
6718 South Aqua Vista Place
Salt Lake City, Utah 84121

CM/mml

MML PAS795418.1-*05/29/08 3:35 PM

APPENDIX B

Constantine Marantidis

From: Cameron, Inez [icameron@smith.com]
Sent: Friday, June 27, 2008 7:40 AM
To: Zak Fang
Subject: Hi Zak

Did you get the declaration I sent you? if not let me know and I will resend it! Thanks so much Zak

Inez Cameron
Patent Administrator
Smith International, Inc.
281-233-5337

APPENDIX C

Constantine Marantidis

From: Cameron, Inez [icameron@smith.com]
Sent: Thursday, August 07, 2008 1:22 PM
To: zfang@mines.utah.edu
Subject: FW: Your Ref. 97-ST13(3); Due Date: July 5, 2008

Hi Zak, could you sign this and return to me? thanks so much!

Inez Cameron
Patent Administrator
Smith International, Inc.
281-233-5337

From: Marian M. Liu [mailto:marian.liu@cph.com]
Sent: Monday, August 04, 2008 12:01 PM
To: Cameron, Inez
Subject: FW: Your Ref. 97-ST13(3); Due Date: July 5, 2008

Morning Inez:

Just want to know the status of the above-referenced application.
Did you get a response from the inventors regarding the declarations?
The due date is tomorrow. Thanks!

Thanks!

Marian

-----Original Message-----

From: Marian M. Liu
Sent: Wednesday, June 04, 2008 4:48 PM
To: 'wnoah@smith.com'
Cc: 'Cameron, Inez'
Subject: Your Ref. 97-ST13(3); Due Date: July 5, 2008

Reissue United States Patent Application Entitled
ROCK BIT WITH HARDFACING MATERIAL INCORPORATING SPHERICAL CAST
CARBIDE PARTICLES
Application No. 09/637,764; Filed August 10, 2000
CPH Ref. S61:36912; Your Ref. 97-ST13(3)

<<36912-Letter.PDF>> <<Liang-Decl.PDF>> <<Fang-Decl.PDF>> <<Sue-Decl.PDF>> <<White-Decl.PDF>>
Please see attached letter with enclosures regarding the above-referenced matter.

Thank you,

11/4/2008

APPENDIX D

Constantine Marantidis

From: Cameron, Inez [icameron@smith.com]
Sent: Wednesday, October 22, 2008 10:21 AM
To: zak.fang@utah.edu
Subject: FW: Your Ref. 97-ST13(3); Due Date: July 5, 2008 - Deadline 11/5/08

Hi Zak, thanks for your help. Please send this back to me electronically and by US mail.

Kindest Regards,

Inez Cameron
Smith International, Inc.
 16740 Hardy St
 Houston, Tx 77032
 281-233-5337

From: Marian M. Liu [mailto:marian.liu@cph.com]
Sent: Tuesday, October 21, 2008 6:22 PM
To: Cameron, Inez
Subject: FW: Your Ref. 97-ST13(3); Due Date: July 5, 2008 - Deadline 11/5/08

Hi Inez:
 Any news on Zak?
 If not, we may have to abandon the file, per Gus.
 Let us know the status.
 Thanks!
 Marian

-----Original Message-----

From: Cameron, Inez [mailto:icameron@smith.com]
Sent: Monday, September 29, 2008 12:03 PM
To: Marian M. Liu
Subject: RE: Your Ref. 97-ST13(3); Due Date: July 5, 2008 - Deadline 11/5/08

I will check, sorry!

Inez Cameron
Patent Administrator
Smith International, Inc.
 281-233-5337

From: Marian M. Liu [mailto:marian.liu@cph.com]
Sent: Tuesday, September 23, 2008 3:37 PM
To: Cameron, Inez
Subject: RE: Your Ref. 97-ST13(3); Due Date: July 5, 2008

Hi Inez! Any news on Zak? The statutory deadline to respond is 11/5/08. Let me know the status, thanks!

-----Original Message-----

11/4/2008

APPENDIX E

Constantine Marantidis

From: Zak Fang [zak.fang@utah.edu]
Sent: Wednesday, October 22, 2008 10:32 AM
To: Cameron, Inez
Subject: Re: FW: Your Ref. 97-ST13(3); Due Date: July 5, 2008 - Deadline 11/5/08

Inez,

I am heading out to the airport. I will take care of this early next week.

Take care,

Zak

Cameron, Inez wrote:

>
> Hi Zak, thanks for your help. Please send this back to me
> electronically and by US mail.
>
> Kindest Regards,
>
> *Inez Cameron*
>
> */Smith International, Inc./*
>
> */16740 Hardy St/*
>
> */Houston, Tx 77032/*
>
> */281-233-5337/*
>
> *From:* Marian M. Liu [mailto:marian.liu@cph.com]
> *Sent:* Tuesday, October 21, 2008 6:22 PM
> *To:* Cameron, Inez
> *Subject:* FW: Your Ref. 97-ST13(3); Due Date: July 5, 2008 - Deadline
> 11/5/08
>
> Hi Inez:
>
> Any news on Zak?
>
> If not, we may have to abandon the file, per Gus.
>
> Let us know the status.
>
> Thanks!
>

11/4/2008

APPENDIX F

Constantine Marantidis

From: Zak Fang [zak.fang@utah.edu]
Sent: Monday, October 27, 2008 8:15 AM
To: Cameron, Inez
Subject: Re: FW: Your Ref. 97-ST13(3); Due Date: July 5, 2008 - Deadline 11/5/08

Inex,

I read through the document that you asked me to sign. I am afraid that I cannot sign this without spending some time to study the issues involved because it has been almost ten years. I cannot sign something that essentially says I made an error without understanding fully what is the legal implications for me. I do not believe Smith will defend on my behalf if something goes to court. So, I apologize that I cannot satisfy your request at this time.

Best regards,

Zak Fang

Cameron, Inez wrote:

> Hi Zak, hope you had a good trip. Don't forget to send me your
> signature!
>
> Inez Cameron
> Patent Administrator
> Smith International, Inc.
> 281-233-5337
>
> -----Original Message-----
> From: Zak Fang [mailto:zak.fang@utah.edu]
> Sent: Wednesday, October 22, 2008 12:32 PM
> To: Cameron, Inez
> Subject: Re: FW: Your Ref. 97-ST13(3); Due Date: July 5, 2008 - Deadline
> 11/5/08
>
> Inez,
>
> I am heading out to the airport. I will take care of this early next
> week.
>
> Take care,
>
> Zak
>
>
> Cameron, Inez wrote:

11/4/2008

APPENDIX G

Constantine Marantidis

From: Cameron, Inez [icameron@smith.com]

Sent: Monday, October 27, 2008 11:27 AM

To: Zak Fang

Cc: Constantine Marantidis

Subject: FW: FW: Your Ref. 97-ST13(3); Due Date: July 5, 2008 - Deadline 11/5/08

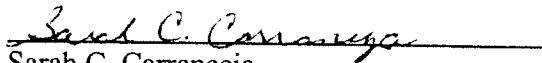
Hello Zak, here are the two attachments that Gus has referenced in your telephone conversation.

Inez Cameron
Patent Administrator
Smith International, Inc.
281-233-5337

PATENT
RESPONSE UNDER 37 CFR 1.116
EXPEDITED PROCEDURE
EXAMINING GROUP 3672

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on February 7, 2008.


Sarah C. Carranceja

Appl No. : 09/637,764 Confirmation No. 7809
Applicant : Dah-Ben Liang, et al.
Filed : August 10, 2000
Title : ROCK BIT WITH HARD-FACING MATERIAL INCORPORATING
SPHERICAL CAST CARBIDE PARTICLES
TC/A.U. : 3672
Examiner : NEUDER, William P.
Docket No. : 36912/S61
Customer No. : 23363

AMENDMENT AFTER FINAL ACTION

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Post Office Box 7068
Pasadena, CA 91109-7068
February 7, 2008

Commissioner:

In response to the Final Rejection mailed on March 7, 2006, please amend the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks/Arguments begin on page 10 of this paper.

Appln No. 09/637,764
Amdt date February 7, 2008
Reply to Office action of March 7, 2006

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Please cancel claim 42 and amend claim 39 as follows:

1. (Twice Amended) A rock bit comprising:

a body;

at least one cutting cone rotatably mounted to an end of the body, wherein the cone includes a gage surface at a heel portion of the cone;

a number of teeth on the cone, the teeth including a plurality of inner row teeth and a plurality of gage row teeth located near a heel of each cone, wherein the teeth include a hardfacing comprising:

steel in the range of from 20 to 50 percent by weight; and

filler in the range of from 50 to 80 percent by weight,

the filler comprising in the range of from 10 to 100 percent by weight spherical cast tungsten carbide particles having particle sizes between about 16 to 40 mesh and between about 80 and 200 mesh, and tungsten carbide particles selected from the group consisting of spherical cemented, crushed cemented, crushed cast, crushed macrocrystalline, and carburized.

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2. (Original) The rock bit of claim 1 comprising filler in the range of from 60 to 75 percent by weight.
3. (Original) The rock bit of claim 1 wherein the filler comprises in the range of from 20 to 50 percent by weight spherical cast tungsten carbide particles.
4. (Twice Amended) The rock bit of claim 1 wherein the filler comprises in the range of from 40 to ~~[[99]]~~100 percent by weight spherical cast tungsten carbide particles.
5. (Canceled)
6. (Canceled)
7. (Twice Amended) The rock bit of claim ~~[[6]]~~1 wherein the filler comprises spherical cast tungsten carbide particles having ~~[[a]]~~ particle ~~[[size]]~~sizes between about 100 to 200 mesh.
8. (Twice Amended) The rock bit of claim ~~[[5]]~~1 wherein the filler further comprises macrocrystalline tungsten carbide particles having ~~[[a]]~~ particle ~~[[size]]~~sizes between about 40 to 80 mesh.
9. (Amended) A rock bit as recited in claim 1 wherein the hardfacing comprises in the range of from 10 to 90 percent by weight spherical cast tungsten carbide particles having ~~[[a]]~~ particle ~~[[size]]~~sizes between about 16 to 40 mesh, and further comprises ultra-fine tungsten carbide particles in the range of from 10 to 35 percent by weight of the filler material, the particles having ~~[[a]]~~ particle ~~[[size]]~~sizes in the range of from about 1 to 50 microns.
10. (Original) A rock bit as recited in claim 9 wherein the ultra-fine tungsten carbide particles are selected from the group consisting of carburized, macrocrystalline, and spherical

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Amdt date February 7, 2008
Reply to Office action of March 7, 2006

cast.

11. (Original) A rock bit as recited in claim 9 wherein the steel in the hardfacing is dispersion strengthened by the ultra-fine tungsten carbide particles.

12. (Amended) A rock bit comprising:

a body;

at least one cutting cone rotatably mounted to an end of the body, wherein the cone includes a gage surface at a heel portion of the cone;

a number of teeth on the cone, the teeth including a plurality of inner row teeth and a plurality of gage row teeth located near a heel of each cone, wherein the teeth include a hardfacing comprising:

steel in the range of from 20 to 50 percent by weight;

filler in the range of from 50 to 80 percent by weight,

the filler comprising in the range of from 10 to 100 percent by weight spherical cast tungsten carbide particles having [[a]] particle [[size]] sizes between about 80 to 200 mesh.

13. (Original) The rock bit of claim 12 comprising filler in the range of from 60 to 75 percent by weight.

14. (Original) The rock bit of claim 12 wherein the filler comprises in the range of from 20 to 50 percent by weight spherical cast tungsten carbide particles.

15. (Original) The rock bit of claim 12 wherein the filler comprises in the range of from 40 to 100 percent by weight spherical cast tungsten carbide particles.

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Reply to Office action of March 7, 2006

16. (Amended) The rock bit of claim 12 wherein the filler comprises spherical cast tungsten carbide particles having [[a]] particle [[size]] sizes between about 100 to 200 mesh.
17. (Amended) The rock bit of claim 12 wherein the filler comprises in the range of from 10 to 99 percent by weight spherical cast tungsten carbide particles having [[a]] particle [[size]] sizes between about 80 to 200 mesh, and further comprises spherical cast tungsten carbide particles having [[a]] particle [[size]] sizes between about 16 to 40 mesh.
18. (Amended) The rock bit of claim 12 wherein the filler comprises in the range of from 10 to 99 percent by weight spherical cast tungsten carbide particles having [[a]] particle [[size]] sizes between about 80 to 200 mesh, and further comprises tungsten carbide particles selected from the group including spherical cemented, crushed cemented, crushed cast and crushed macrocrystalline.
19. (Amended) The rock bit of claim 18 wherein the filler further comprises macrocrystalline tungsten carbide particles having [[a]] particle [[size]] sizes between about 40 to 80 mesh.
20. (Amended) A rock bit as recited in claim 12 wherein the hard-facing comprises in the range of from 10 to 90 percent by weight spherical cast tungsten carbide particles having [[a]] particle [[size]] sizes between about 80 to 200 mesh, and further comprises ultra-fine tungsten carbide particles in the range of from 10 to 35 percent by weight of the filler material, the particles having a particle size in the range of from about 1 to 50 microns.
21. (Original) A rock bit as recited in claim 20 wherein the ultra-fine tungsten carbide particles are selected from the group consisting of carburized, macrocrystalline, and spherical cast.

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Amdt date February 7, 2008
Reply to Office action of March 7, 2006

22. (Original) A rock bit as recited in claim 20 wherein the steel in the hardfacing is dispersion strengthened by the ultra-fine tungsten carbide particles.
23. (Amended) A rock bit comprising:
a body;
at least one cutting cone rotatably mounted to an end of the body, wherein the cone includes a gage surface at a heel portion of the cone;
a number of teeth on the cone, the teeth including a plurality of inner row teeth and a plurality of gage row teeth located near a heel of each cone, wherein the teeth include a hardfacing comprising:
steel in the range of from 20 to 50 percent by weight;
filler in the range of from 50 to 80 percent by weight, the filler comprising in the range of from 10 to 100 percent by weight spherical cast tungsten carbide particles having [[a]] particle [[size]] sizes between about 16 to 40 mesh and between about 80 to 200 mesh.
24. (Amended) A rock bit as recited in claim 23 wherein the hard-facing comprises in the range of from 10 to 90 percent by weight spherical cast tungsten carbide particles having [[a]] particle [[size]] sizes between about 16 and 40 mesh and between about 80 to 200 mesh, and further comprises ultra-fine tungsten carbide particles in the range of from 10 to 40 percent by weight of the filler material, the particles having [[a]] particle [[size]] sizes in the range of from about 1 to 50 microns.
25. (Original) A rock bit as recited in claim 24 wherein the ultra-fine tungsten carbide particles are selected from the group consisting of carburized, macrocrystalline, and spherical cast.
26. (Original) A rock bit as recited in claim 24 wherein the steel in the hardfacing is dispersion strengthened by the ultra-fine tungsten carbide particles.

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27. (Amended) The rock bit of claim 23 wherein the filler comprises spherical cast tungsten carbide particles having [[a]] particle [[size]] sizes between about 100 to 200 mesh.
28. (Twice Amended) A rock bit comprising:
a body;
at least one cutting cone rotatably mounted to an end of the body, wherein the cone includes a gage surface at a heel portion of the cone; and
a number of teeth on the cone, the teeth including a plurality of inner row teeth and a plurality of gage row teeth located near a heel of each cone, wherein the teeth include a hardfacing comprising,
steel, and
filler in the range of from 50 to 80 percent by weight, the filler comprising in the range of from 10 to 100 percent by weight spherical cast tungsten carbide particles having particle sizes between about 16 mesh to less than 40 mesh.
29. (Twice Amended) A rock bit as recited in claim 28 wherein the filler comprises in the range of from 19 to 100 percent by weight spherical cast tungsten carbide particles.
30. (Canceled)
31. (Twice Amended) A rock bit as recited in claim 28 further comprising spherical tungsten carbide particles having particle sizes between greater than 80 to 200 mesh.
32. (Twice Amended) A rock bit comprising:
a body;
at least one cutting cone rotatably mounted to an end of the body, wherein the cone includes a gage surface at a heel portion of the cone; and

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Reply to Office action of March 7, 2006

a number of teeth on the cone, the teeth including a plurality of inner row teeth and a plurality of gage row teeth located near a heel of each cone, wherein the teeth include a hardfacing comprising,

steel, and

filler in the range of from 50 to 80 percent by weight, the filler comprising in the range of from 10 to 100 percent by weight spherical cast tungsten carbide particles having particle sizes between greater than 80 mesh and 200 mesh.

33. (Twice Amended) A rock bit as recited in claim 32 wherein the filler comprises in the range of from 19 to 100 percent by weight spherical cast tungsten carbide particles.

34. (Canceled)

35. (Twice Amended) A rock bit as recited in claim 32 further comprising spherical tungsten carbide particles having particle sizes between 16 to less than 40 mesh.

36. (Amended) A rock bit comprising:

a body;

at least one cutting cone rotatably mounted to an end of the body, wherein the cone includes a gage surface at a heel portion of the cone; and

a number of teeth on the cone, the teeth including a plurality of inner row teeth and a plurality of gage row teeth located near a heel of each cone, wherein the teeth include a hardfacing comprising,

steel, and

filler in the range of from 50 to 80 percent by weight, the filler comprising in the range of from 10 to 100 percent by weight spherical cast tungsten carbide particles having particle sizes between about 16 to 40 mesh and between about 80 to 200 mesh.

Appln No. 09/637,764
Amdt date February 7, 2008
Reply to Office action of March 7, 2006

37. (Amended) A rock bit as recited in claim 36 comprising steel in the range of 20 to 50 percent by weight, and wherein the spherical tungsten carbide particles have particle sizes between about 16 to less than 40 mesh and between greater than 80 to 200 mesh.
38. (Canceled).
39. (Thrice Amended) A rock bit comprising:
a body;
at least one cutting cone rotatably mounted to an end of the body, wherein the cone includes a gage surface at a heel portion of the cone; and
a number of teeth on the cone, the teeth including a plurality of inner row teeth and a plurality of gage row teeth located near a heel of each cone, wherein the teeth include a hardfacing comprising,
steel, and
filler in the range of from 50 to 80 percent by weight, the filler comprising in the range of from 19 to 100 percent by weight spherical cast tungsten carbide particles.
40. (Amended) A rock bit as recited in claim 28 wherein the filler comprises in the range of from 19 to 100 percent by weight spherical cast tungsten carbide.
41. (Amended) A rock bit as recited in claim 32 wherein the filler comprises in the range of from 19 to 100 percent by weight spherical cast tungsten carbide.
42. (Canceled).

Appln No. 09/637,764
Amdt date February 7, 2008
Reply to Office action of March 7, 2006

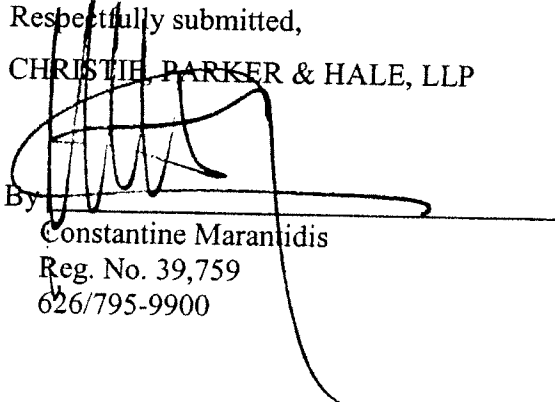
REMARKS/ARGUMENTS

The above amendments and these remarks are responsive to the Office Action mailed on March 7, 2006. It is assumed that the response mailed on May 5, 2006 in response to the Office action of March 7, 2006 was not entered. Claim 39 has been amended. Claim 42 has been canceled. Claims 1-4, 7-29, 31-33, 35-37, 39-41 are now pending in this application. Reconsideration on the basis of the above amendments and remarks below is kindly requested.

The Examiner rejected claim 39 but objected to claim 42 and stated that claim 42 would be allowable if rewritten in independent form including all the limitations of its base claim and any intervening claims. Claim 42 was directly dependent from independent claim 39. Claim 39 has been amended to include the limitations of claim 42. As such, claim 39 is now in condition for allowance.

The rejections and objections to all claims pending in this application are believed to have been overcome and this application is now believed to be in condition for allowance. Should the Examiner have any remaining questions or concerns about the allowability of this application, the Examiner is kindly requested to call the undersigned attorney to discuss them.

Respectfully submitted,
CHRISTIE, PARKER & HALE, LLP

By 
Constantine Marantidis
Reg. No. 39,759
626/795-9900

SCC PAS776380.1-* -02/7/08 10:37 AM

Docket No. 36912/CM/S61

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

For : Reissue of U.S. Patent No. 5,791,422
Patentee : Dah Ben Liang, et al.
Patent No. : 5,791,422
Patent Issue Date : August 11, 1998
Title : ROCK BIT WITH HARDFACING MATERIAL
INCORPORATING SPHERICAL CAST
CARBIDE PARTICLES

Docket No. : 36912/CM/S61

SUBSTITUTE DECLARATION FOR REISSUE PATENT APPLICATION

Assistant Commissioner for Patents
Washington, D.C. 20231

Post Office Box 7068
Pasadena, CA 91109-7068

Commissioner:

As a below named inventor, I hereby declare that my residence and post office address is listed below, I am a citizen of the United States of America, and I believe I am an original, first and joint inventor of the subject matter described and claimed in U.S. Patent No. 5,791,422 (the "'422 Patent"), issued on August 11, 1998, for which a reissue patent is sought on the invention entitled ROCK BIT WITH HARDFACING MATERIAL INCORPORATING SPHERICAL CAST CARBIDE PARTICLES, the specification of which is attached hereto. The application for the '422 Patent was filed on March 12, 1997, as Application Serial No. 08/815,745 (the "'745 Application").

I acknowledge the duty to disclose information known to me to be material to the examination of this application in accordance with Title 37, Code of Federal Regulations, Section 1.56(a).

I believe that the '422 Patent is partially inoperative because none of the claims in the '422 Patent are directed to a rock bit comprising a cutting cone having a number of teeth which include a hardfacing comprising spherical cast tungsten carbide particles having particle sizes between about 16 mesh to less than 40 mesh without also requiring particle sizes between about 80 and 200 mesh.

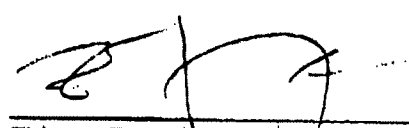
Docket No. 36912/CM/S61

The novelty of this aspect of my invention was erroneously overlooked, as I did not appreciate the full scope of the invention being claimed at the time the '745 Application was filed and during its prosecution. My failure to recognize the full scope of the invention being claimed was inadvertent as is evidenced by the fact that although this novel feature was described in the specification of the '745 Application, it was not broadly claimed. As a result of this failure, I claimed less than I had a right to claim in the '422 Patent. This error arose without any deceptive intention on my part. Furthermore, all errors being corrected in this reissue application up to the time of filing of this Declaration arose without any deceptive intention on my part.

I hereby state that I have reviewed and understand the content of the above-identified application, including the original claims 1-3, 7-27 and any amendment made to such claims, and the added reissue claims 28-33, 35-37 and 39-42 which are directed to a rock bit comprising a cutting cone having a number of teeth comprising a hardfacing comprising steel and spherical tungsten carbide particles.

I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, both under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the reissue application or any patent issuing thereon.

Dated: 11/11/05


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